

Notice of Allowability

Application No.

10/760,945

Applicant(s)

MORIYA ET AL.

Examiner

Art Unit

Ehud Gartenberg

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/24/2004.
2. ☒ The allowed claim(s) is/are 49-51.
3. ☒ The drawings filed on 24 June 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/149,887.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 6/24/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jessica Schroth on 1/4/2005.

The application has been amended as follows: Claims 33-35 have been canceled.

Claims 49-51 have been added.

Claim 49 (new) A burner apparatus comprising an inner tube defining a second channel and an outer tube defining a first channel surrounding the inner tube, oxygen-containing gas supplying means supplying oxygen-containing gas to the first channel and the second channel, and gas supplying means supplying fuel gas to the first channel and the second channel, either the first channel or the second channel being used as a main combustion channel and the other being used as a pilot combustion channel, the main combustion channel and the pilot combustion channel receiving the supply of fuel gas for combusting it;

wherein a plurality of first supply openings supplying the fuel gas into the first channel are distributed in the first combustion channel at gradually increasing radial distances away from the second channel;

said first supply openings are oriented such that fuel gas from each of said first supply openings encounters a discharge resistance caused by the flow of the oxygen-containing gas; and

each one of said discharge resistances increases as said supply openings become more radially distant from the second combustion channel.

Claim 50 (new) The burner apparatus according to claim 49, wherein the setting of the discharge resistance of the fuel gas is done such that a discharging angle for the fuel gas of each one of said first supply openings toward the upstream side of the flow direction of the oxygen-containing gas in the first combustion channel is decreased as the distance from the second combustion channel is increased.

Claim 51 (new) The burner apparatus of claim 49, wherein the setting of the discharging resistance of the fuel gas is done such that the discharging direction of the fuel gas from the plurality of first supply openings is oriented to be gradually more upstream than the direction normal to the flow direction of the oxygen-containing gas in the first combustion channel, and the opening area of each one of said first supply openings is increased at radially increasing distances away from the second combustion channel.

Comment: This Examiner's Amendment put the application in condition of allowance by obviating rejections under 35USC 112, 2nd paragraph. The Examiner and Applicant's representative attempted to amend the claim in a fashion that preserves the claim language as filed to the maximum possible extent. The proposed amendment faxed by the Attorney on 1/4/2005 is hereby made part of this Office Action as an Appendix.

Allowable Subject Matter

2. Claims 49-51 are allowed.

Conclusion

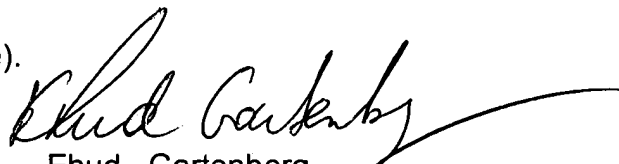
3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Frederick 2951341, Guillaume 2949012, Dean 6070410, mandai 6158223, Critchley 6327860, Jackson 2807316.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ehud Gartenberg whose telephone number is 571 272 4828. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571 272 4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Ehud Gartenberg", with a long horizontal flourish extending to the right.

Ehud Gartenberg
Primary Examiner
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